UNITED STATES DEPARTMENT OF COMMERCE

JESSE H. JONES, Secretary

BUREAU OF THE CENSUS

J. C. CAPT, Director (Appointed May 22, 1941)

WILLIAM LANE AUSTIN, Director (Retired January 31, 1941)

VERGIL D. REED, Assistant Director

HOWARD H. McCLURE, Assistant Director

SIXTEENTH CENSUS OF THE UNITED STATES: 1940

MANUFACTURES

1939

Volume I

Statistics by Subjects

Prepared under the supervision of THOMAS J. FITZGERALD Chief Statistician for Manufactures

UNITED STATES
GOVERNMENT PRINTING OFFICE
WASHINGTON: 1942

BUREAU OF THE CENSUS

J. C. CAPT, Director (Appointed May 22, 1941)

WILLIAM LANE AUSTIN, Director (Retired January 31, 1941)

VERGIL D. REED. Assistant Director

HOWARD H. McClure, Assistant Director

Manufactures-Thomas J. Fitzgerald, Chief Statistician.

John F. Daly, Assistant Chief Statistician.

Technical Assistant-Mary T. Marsh.

Final Results-Marian B. Nevius.

Economic Analyst-Alfred Cahen.

Chemicals, Petroleum, Rubber, Stone, Clay, Glass-John A. Burroughs.

Printing, Leather, Miscellaneous-William G. Copley.

Food, Tobacco-Walter S. Gilchrist.

Textiles, Apparel—Patrick J. Murray.

Lumber, Furniture, Paper-August H. O. Rolle.

Metals, Machinery, Transportation Equipment—Frank W. Sebring.

Administrative Service-ARTHUR J. HIRSCH, Chief.

Agriculture - Zellmen R. Pettet, Chief Statistician.

Business-Fred A. Gosnell, Chief Statistician.

Cotton and Oils-RAY HUBLEY, Chief Statistician.

Field Service-GERALD RYAN, Chief.

Geography-CLARENCE E. BATSCHELET, Geographer.

Information and Publications-FRANK R. WILSON, Chief.

Machine Tabulation-George B. Wetzel, Chief.

Mineral Industries - Oscan E. Kiessling, Chief Statistician.

Population-LEON E. TRUESDELL, Chief Statistician.

State and Local Government-Chester E. Righton, Chief Statisticia...

Statistical Research-Calvert L. Dedrick, Chief Statistician.

Vital Statistics-HALBERT L. DUNN, Chief Statistician.

LETTER OF TRANSMITTAL

DEPARTMENT OF COMMERCE,
BUREAU OF THE CENSUS,
Washington, D. C., January 8, 1943.

Sir: I transmit herewith volume I of the report of the Census of Manufactures for 1939. This census, which was taken in 1940 as a part of the Sixteenth Decennial Census, is also the tenth of the biennial series of the censuses of manufactures.

The manufactures reports for 1939 comprise three volumes. Volume I is a general report giving statistics on special subjects such as size of establishments, type of organization, inventories, and expenditures for plant and equipment.

Volume II, consisting of two parts, contains the detailed reports for the 446 industries covered by the census. Part 1 is an assembly of the reports for the industries in Groups 1 to 10 and part 2 for the industries in Groups 11 to 20. The report for Motion Pictures (not including projection in theaters) is included in part 2.

Volume III is an assembly of detailed reports for the 48 States, the District of Columbia, Alaska, Hawaii, and Puerto Rico.

The volumes contain a general summary which includes statistics for all industries and States.

Preliminary statistics for the individual industries and for States were issued during 1940 and 1941, and later

complete and detailed statistics were published in pamphlet form.

The statistics were compiled and published under the supervision of Thomas J. Fitzgerald, Chief Statistician for Manufactures, and John F. Daly, Assistant Chief Statistician, assisted by the staff of the Division whose names appear in the front of this volume, and also by Robert M. Davis, who had immediate charge of the preparation of statistics on power and fuel.

Respectfully,

J. C. Capt, Director of the Census.

Hon. Jesse H. Jones, Secretary of Commerce.

REPORTS ON MANUFACTURES SIXTEENTH DECENNIAL CENSUS: 1940 MANUFACTURES: 1939

Volume I. General Report—Statistics by Subjects.

Volume II. Part 1, Reports by Industries-Groups 1 to 10.

Volume II. Part 2, Reports by Industries—Groups 11 to 20.

Volume III. States and Outlying Areas.

CONTENTS

Chapter I.—GENERAL EXPLANATIONS

	Page		Page
Area and period covered	1	Value of products	5
The canvass	1	Duplication in cost of materials and value of products	5
Establishments covered—type	1	Value added by manufacture	5
Establishments covered—minimum size limit	2	Profits and production costs.	6
Definition of establishment	2	Price changes:	6
Classification of industries	2	Inventory	6
Industry groups	2	Expenditures for plant and equipment	6
Classification of establishments	2	Power equipment	6
Changes in the scope of the Census of Manufactures be-		Fuel and electric energy used	6
tween 1929 and 1939	3	Disclosure of data for individual establishments	7
The questionnaires	3	Industrial areas	7
Persons engaged—general classification	3	Changes in figures for earlier years	7
Wage earners and wages	4		•
Cost of materials, etc.		Changes in industry groups, industry classifications, and	**
Contract work	4	titles: 1939	7
Contract work	4		
Chapter II	-GEN	IERAL SUMMARY	
			Page
Introduction	. 		17
Manufacturing production as measured by physical volum	e		18
TABLE 1.—Combined summary for continental United State	es. Ala	ska, Hawaii, and Puerto Rico: 1939	19
TABLE 2.—Summary for all manufacturing industries, for	ontine	ntal United States: 1849 to 1939	19
Table 2.—Summary for all manufacturing industries, for continental United States: 1849 to 1939. Table 3.—Indexes for population, wage earners, and production: 1899 to 1939.			20
TABLE 4.—Combined general statistics for all manufacturi			20
TABLE 5.—General statistics in detail, by industry groups			22
TABLE 6.—General statistics in detail, by geographic divisi			44
TABLE 7.—Relative importance of leading industries, listed	accord	ling to number of wage earners: 1939	46
TABLE 8.—Summary for industrial areas, ranked according			50
TABLE 9.—General statistics for industrial areas: 1939, 193			51
TABLE 10.—General statistics in detail, for industrial areas			53
Table 11.—Summary for principal industrial counties, ran			56
Table 12.—General statistics for selected counties: 1939		***************************************	62
Chapter	т Ш.—	-PERSONNEL	
Introduction.			65
Table 1.—Persons employed in manufacturing establishme			67
TABLE 2.—Persons employed in manufacturing establishme			70
Table 3.—Salaries and wages of persons employed in			• • •
			88
TABLE 4.—Persons employed in manufacturing establishme			99
TABLE 5.—Salaries and wages of persons employed in 1			00
			100
			102
TABLE 6.—Persons employed in manufacturing establishme			103
Table 7.—Salaries and wages of persons employed in man			105
Table 8.—Wage earners engaged in manufacturing, by m			
			107
TABLE 9.—Wage earners engaged in manufacturing, by r			
States, 1939		**************************************	117
	-		
Chapter IV.—S	IZE O	F ESTABLISHMENTS	
Introduction			119
TABLE 1.—Summary for wage-earner size groups: 1939			120
Table 2.—Wage earners in establishments classified as to	size by	number of wage earners: 1939 and 1929	120
TABLE 3.—Summary for establishments classified as to size			
		uoti oi wage cainers, idi indusmy gioups aam idi indusmies.	121
TADA" - ***********************************		• *************************************	144

Chapter IV. Size Of ESTABLISHMENTS—Continued	Page
Table 4 Summary for establishments classified as to size by number of wage earners, for geographic divisions and for	_
States: 1939	169
I show the transfer of the construction of the	178
A SUMMAN OF THE PARTY OF THE PROPERTY AND THE PARTY OF TH	182
T militarities a strategic last and the strat	183
Table 8.—Summary for establishments classified as to size, by value of products, for geographic divisions and for States: 1939_	218
Chapter V.—TYPE OF ORGANIZATION OR CONTROL	
機能を表現しません。 1997年 1997	227
The second section of the section of th	229
Table 2.—Type of organization—Summary for establishments classified as under central-administrative-office (plural-unit) or independent (single-unit) operation, and as under corporate or other form of ownership or control, for industry groups and for industries: 1939.	230
Table 3.— Type of organization—Summary for establishments classified as under central-administrative-office (plural-unit)	
or independent (single-unit) operation, and as under corporate or other form of ownership or control, for geo-	268
Chapter VI.—POWER EQUIPMENT AND ENERGY CONSUMPTION	
	273
Table 1.—Prime movers and motors by number and rated capacity, generators by kilowatt rating, and electric energy purchased (kilowatt-hours): 1869 to 1939.	075
Table 2.—Prime movem and motors by number and rated capacity, generators by kilowatt rating, and electric energy con-	275
sumed (kilowatt-hours); 1939	276
Table 3.—Horsepower installation (rated capacity) per 100 wage earners: 1869 to 1939	277
Table 4.—Prime movers and motors by number and rated capacity, generators by kilowatt rating, and electric energy consumed (kilowatt-hours), in detail, for industry groups and for industries: 1939	070
Table 5.—Prime movem and motors by number and rated capacity, generators by kilowatt rating, and electric energy con-	278
sumed (kilowatt-hours), in detail, for geographic divisions and for States: 1939	320
Table 6.— Prime movers and motors by number and rated capacity, generators by kilowatt rating, and electric energy pur-	
chased (kilowatt-hours), for geographic divisions, and for States: 1939 and 1929. Table 7.—Prime movers and motors by number and rated capacity, generators by kilowatt rating, and electric energy con-	324
sumed (kilowatt-hours), in detail, for industrial areas: 1939	328
Table 8.—Prime movers and motors by number and rated capacity, and electric energy purchased (kilowatt-hours), for	-
Chapter VII.—FUEL CONSUMED	332
Introduction	335
TABLE I.—Consumption of fuel and purchased electric energy, by quantity and cost, 1939, 1937, and 1929, and by cost, 1935;	
A ABLE 2. Consumption of fuel, by kind and quantity, and cost of fuel and of purchased electric energy for industry groups	337
and for industries: 1939 Table 3.—Consumption of fuel, by kind and quantity, and cost of fuel and of purchased electric energy, for geographic divi-	338
SECURE MAINT FOR STRAIGS: 1939, 1937, 1929, and 1910	347
A A SPACE T. T. A. C. STEINE STEEL ST. T. T. S.	352
Chapter VIII.—INVENTORIES IN THE HANDS OF MANUFACTURERS	
Table—Inventories in the hands of manufacturers by industry groups 1929 and 1927 and building	353
	354
Chapter IX. EXPENDITURES FOR PLANT AND EQUIPMENT	
Table 1. Expenditures for plant and communent, by industry means and by industry means	363
Francia Company Control of the Contr	364
	373
Chapter X.—MATERIALS CONSUMED IN SELECTED INDUSTRIES	
	375
The state of the s	375
Table 2. Selected industries reporting specified materials consumed, by quantities and costs: 1939	386
distriction and costs: 1939	386
APPENDIXES	386
APPENDIXES A. Legal provisions for Biennial Census of Manufactures B. General schedule	386 401
APPENDIXES A.—Legal provisions for Biennial Census of Manufactures. B.—General schedule C.—Alphabetical list of industries: 1939	
APPENDIXES A Legal provisions for Biennial Census of Manufactures. B General schedule. C Alphabetical list of industries: 1939. D List of industries, with descriptions, by groups: 1939.	401

CONTENTS	VII
MAPS	
United States by geographic divisions—frontispiece	VIII
Industrial areas of the United States: 1939	
Principal industrial counties in the United States	55
CHARTS	
Graphic summary for manufacturing industries: 1914-39	21
Value of manufactured products, by States: 1939 and 1929	42
Value added by manufacture, by States: 1939 to 1929	48
Personnel of manufacturing establishments and their salaries and wages, by class of employment.	66
Persons engaged in manufacturing and their salaries and wages, by class of employment (reported for normal pay-roll period	
ended nearest Oct. 14, 1939)	66
Wage earners engaged in manufacturing, by sex, by industry groups: 1939	68
Wage earners (average for the year) engaged in manufacturing, and wages paid, by geographic divisions: 1939	96
Wage earners (average for the year) engaged in manufacturing, by States: 1939 and 1929	97
Wages paid to workers engaged in manufacturing, by States: 1939 and 1929	98
Wage earners engaged in manufacturing, by months: 1939, 1937, and 1929	106
Wage earners engaged in manufacturing per 1,000 population, by States: 1939	116
Number of establishments and number of wage earners (average for the year)—percent distribution by wage-earner size groups: 1939	119
Number of establishments and number of wage earners (average for the year)—percent distribution by value-of-products size groups: 1939———————————————————————————————————	119
Wages paid and value added by manufacture—percent distribution by value-of-products size groups: 1939	119
Number of establishments, number of wage earners (average for year), and value of products, by type of operation and by	
ownership or control: 1939-29	228
Power equipment in manufacturing establishments: 1869 to 1939 Consumption of fuels, 1909 to 1939, and of purchased electric energy, 1929, 1937, and 1939, in manufacturing establishments	274
Consumption of fuels, 1909 to 1959, and of Durchased electric energy, 1929, 1937, and 1939, in manufacturing establishments	336

UNITED STATES BY GEOGRAPHIC DIVISIONS